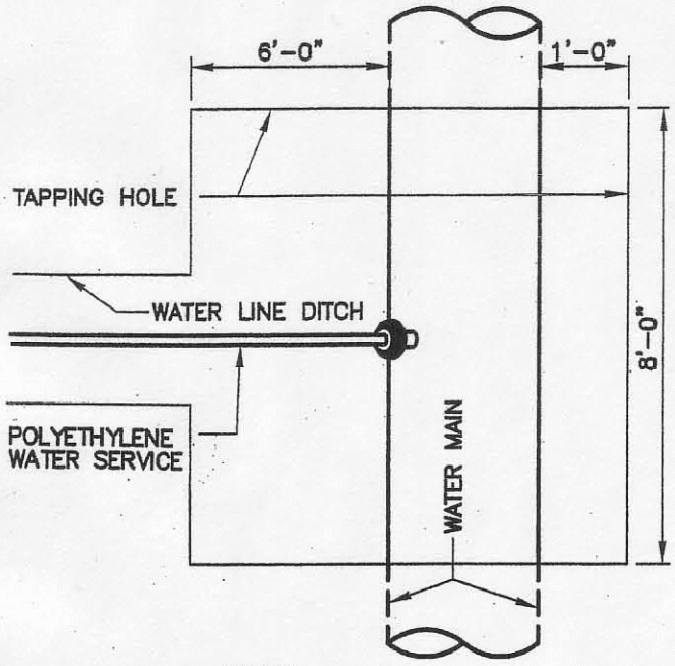
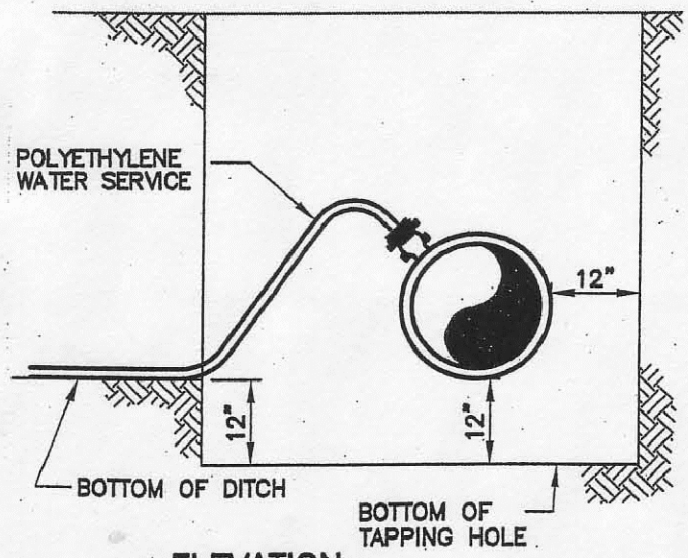
SERVICE TAPS 1-1/2" & 2" TAPPING SADDLE



PLAN

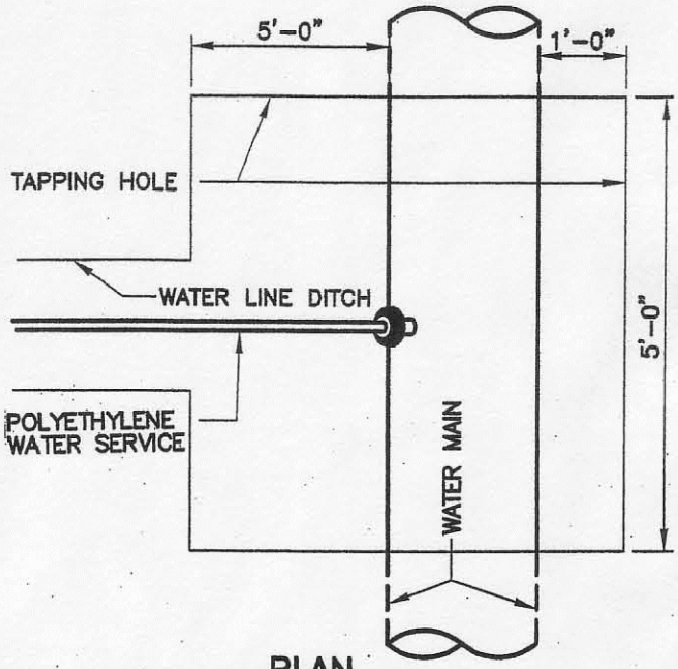


ELEVATION

NOTE:

DIRECT TAPS TO THE WATER MAIN SHALL BE MADE ONLY WHEN APPROVED BY THE DISTRICT. ALL TAPS SHALL USE TAPPING SADDLES, TAPPING SADDLES SHALL HAVE TWO BRASS BANDS AND A BRASS CORPORATION CONNECTION.

SERVICE TAPS 3/4" & 1" CORPORATION ONLY



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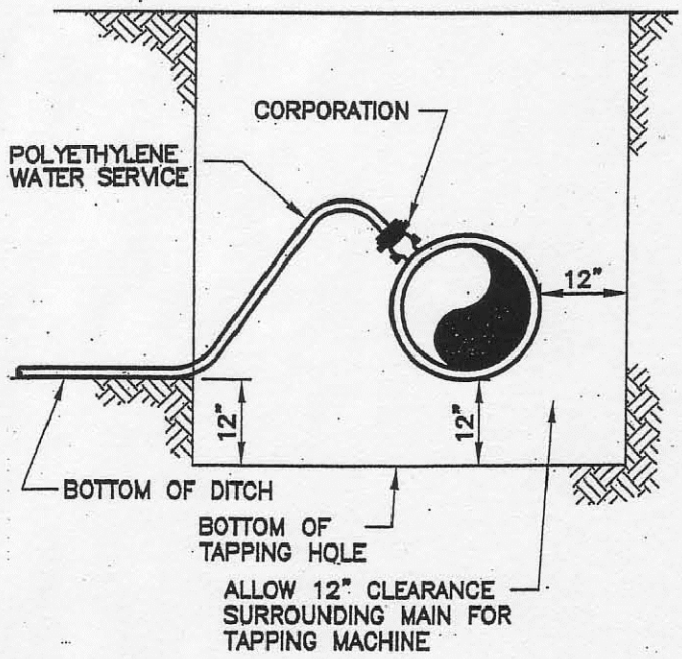

ELEVATION

STRASBURG SANITATION AND WATER DISTRICT

TAPPING DETAIL – 3/4" THRU 2"

APPVD.	DATE:	SUVYD. DATE:	
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DESIGN	DATE:	JOB NO.	
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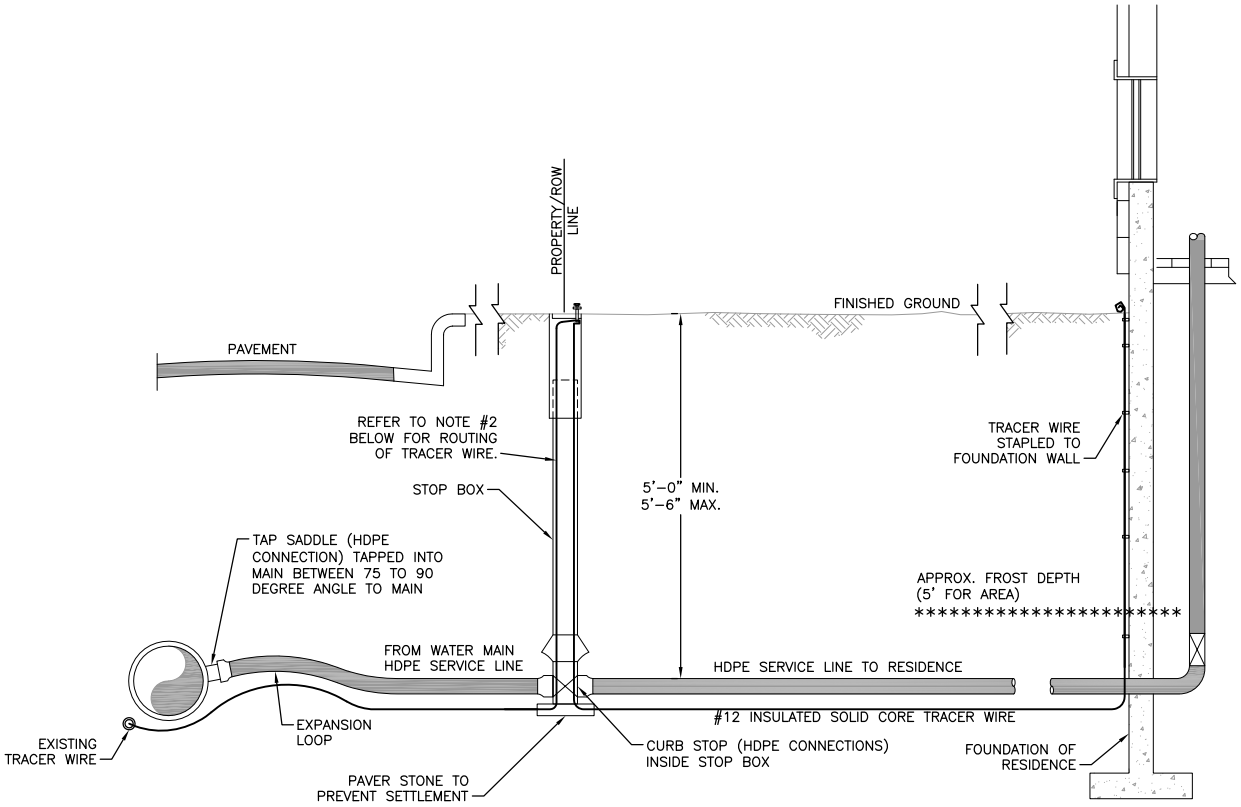
REVISION 5/96, 10/31/16			



NOTES:

1. REFER TO STANDARD DRAWINGS FOR METER, PRESSURE REGULATION AND BACKFLOW PREVENTION DEVICE INSTALLATION DETAILS.

2. SERVICE LINE FROM CURB STOP TO THE STRUCTURE BEING SERVED IS THE RESPONSIBILITY OF THE CUSTOMER/OWNER FOR OPERATION AND MAINTENANCE. ONLY THE DISTRICT IS AUTHORIZED TO OPEN AND CLOSE THE CORPORATION AND CURB STOP ONCE IN SERVICE.

STRASBURG SANITATION AND WATER DISTRICT			
TYP. INSTALLATION FOR SERVICE LINE AND STOP BOX			
APPVD.	DATE:	SUVYD. DATE:	
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REVISION			

INSTALLATION OF 3" TO 10" BACKFLOW PREVENTERS

1	GATE VALVE
2	BACK FLOW PREVENTER ASSEMBLY
3	90° ELBOW

BACKFLOW PREVENTER ASSEMBLY WILL BE INSTALLED ABOVE GROUND. (FIG. A) THE UNIT SHOULD BE PLACED AT LEAST TWELVE INCHES (24") ABOVE THE FINISH GRADE TO ALLOW CLEARANCE FOR REPAIR WORK. A CONCRETE SLAB AT FINISH GRADE IS RECOMMENDED. PROPER DRAINAGE SHOULD BE PROVIDED. IF A RELIEF VALVE IS REQUIRED, IT MAY BE PIPED AWAY FROM THE LOCATION, PROVIDED IT IS READILY VISIBLE FROM ABOVE GRADE AND THE RELIEF VALVE IS SEPERATED FROM THE DRAIN LINE BY A MINIMUM OF DOUBLE THE DIAMETER OF THE SUPPLY LINE. A MODIFIED VAULT INSTALLATION MAY BE USED IF CONSTRUCTED WITH AMPL SIDE CLEARANCES. (FIG. B)

ABOVE GROUND INSTALLATION

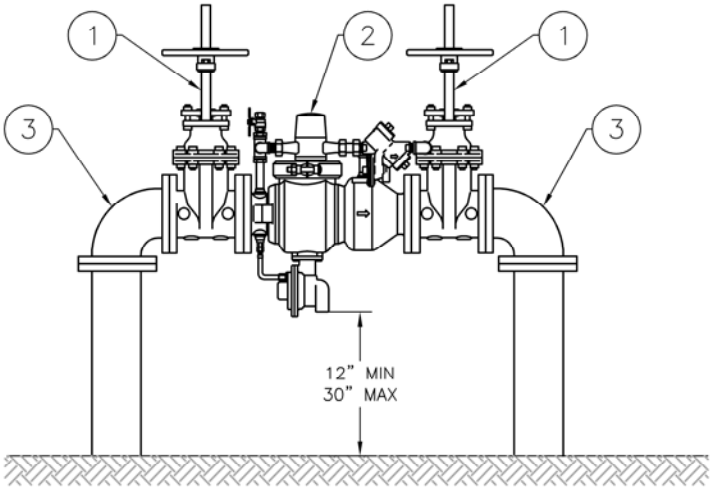

FIG. A

NOTES:
1. ENCLOSURE DESIGN SHALL BE SUBMITTED TO SSWD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
2. ENCLOSURE SHALL BE HEATED.
3. DRAIN SHALL ENSURE THAT AIR GAP IS MAINTAINED AT ALL TIMES.
4. SEE SECTION 5.01 OF THE SSWD PUBLIC UTILITY DESIGN AND CONSTRUCTION SPECIFICATIONS FOR BACKFLOW PREVENTION DEVICE STANDARDS.
5. ALL PIPING SHALL BE FLANGED DIP OR GALVANIZED STEEL.

ABOVE GROUND INSTALLATION W/ ENCLOSURE

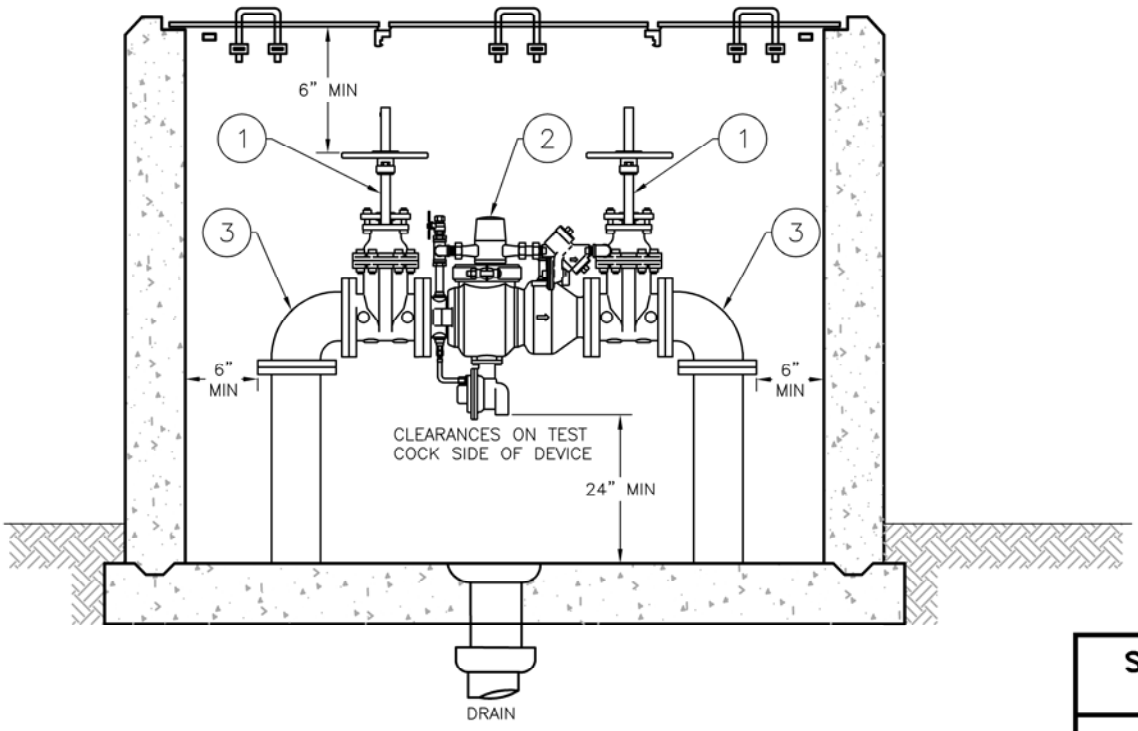

FIG. B

STRASBURG SANITATION AND WATER DISTRICT

3" TO 10" ABOVE GROUND BACKFLOW PREVENTER

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REVISION			

INSTALLATION OF 3" TO 10" BACKFLOW PREVENTER

ALTHOUGH BACK FLOW PREVENTER ASSEMBLIES CAN BE INSTALLED ABOVE GROUND, THESE BACKFLOW PREVENTERS ARE ALSO READILY ADAPTABLE FOR VAULT INSTALLATIONS, SPECIAL NOTICE SHOULD BE GIVEN TO THE SIDE CLEARANCES FOR ACCESSIBILITY TO PROPERLY TEST AND REPAIR THE DEVICE. NOTE SIDE CLEARANCES. FOR UNDERGROUND INSTALLATIONS, A REDUCED PRESSURE BACKFLOW PREVENTER WILL ONLY BE ALLOWED IF THE CUSTOMER OBTAINS PRIOR WRITTEN APPROVAL FROM THE COLORADO DEPARTMENT OF HEALTH AND ENVIROMENT'S CROSS CONNECTION CONTROL DEPARTMENT HEAD.

1	GATE VALVE
2	BACK FLOW PREVENTER ASSEMBLY
3	90° ELBOW
4	TEE

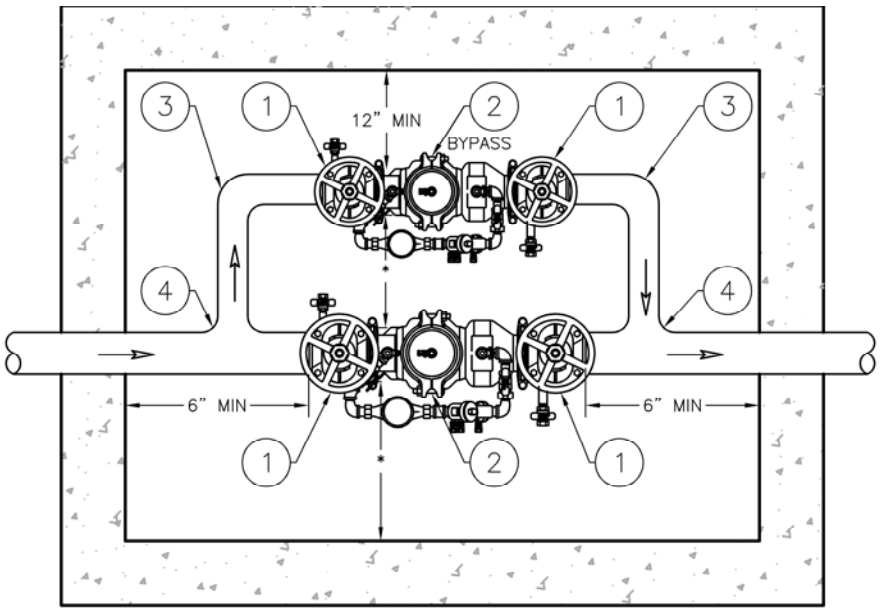
UNDERGROUND VAULT INSTALLATION

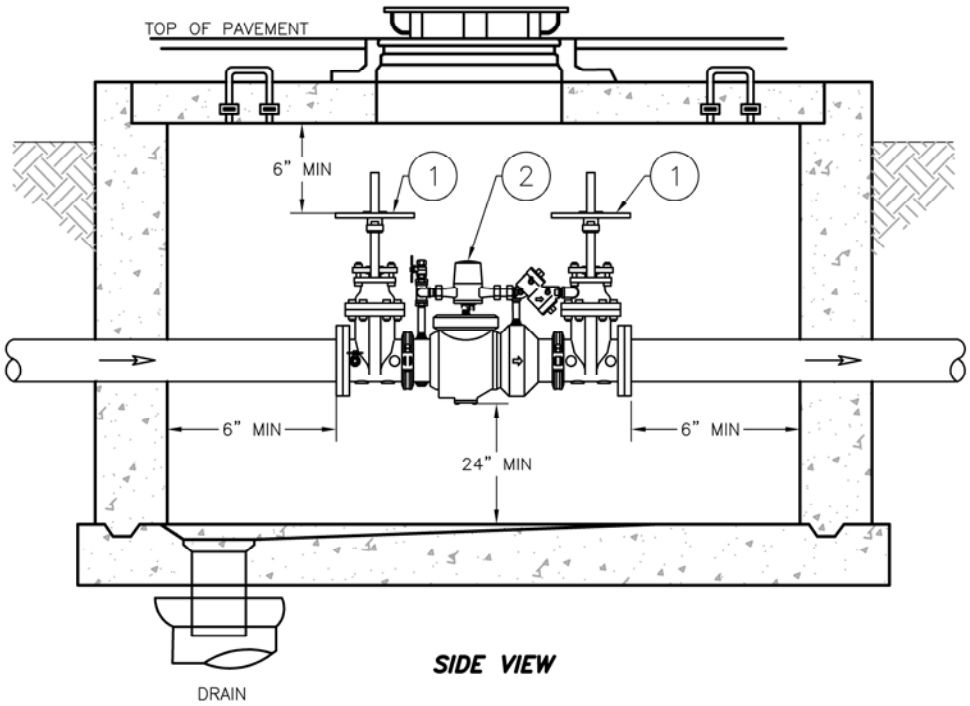
VAULTS WILL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD WATER SPECIFICATIONS FOR METER PITS OF THE SAME SIZE.

NOTES:
1. CONCRETE VAULT DRAWINGS AND SPECIFICATIONS SHALL BE SUBMITTED TO SSWD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
2. FLOOR DRAIN SHALL ENSURE THAT AIR GAP IS MAINTAINED AT ALL TIMES.
3. SEE SECTION 5.01 OF THE SSWD PUBLIC UTILITY DESIGN AND CONSTRUCTION SPECIFICATIONS FOR BACKFLOW PREVENTION DEVICE STANDARDS.
4. *NOTE–CLEARANCES ON TEST COCK SIDE OF DEVICE

   3" AND UP .....24"

5. ALL PIPING SHALL BE FLANGED DIP OR GALVANIZED STEEL.





SIDE VIEW

STRASBURG SANITATION AND WATER DISTRICT

3" TO 10" BELOW GROUND BACKFLOW PREVENTER

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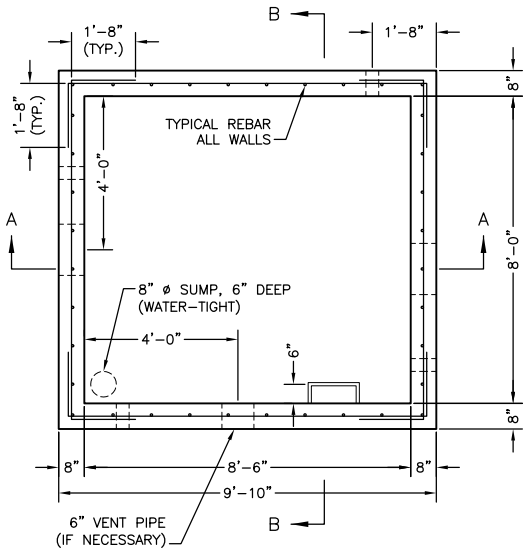
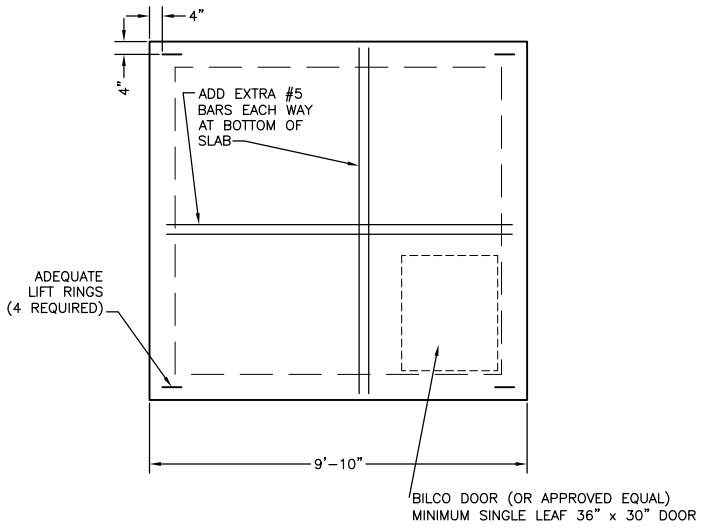
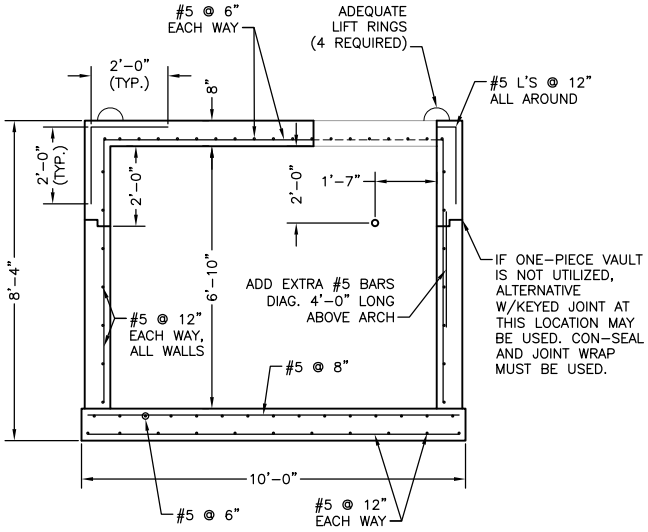
REVISION			



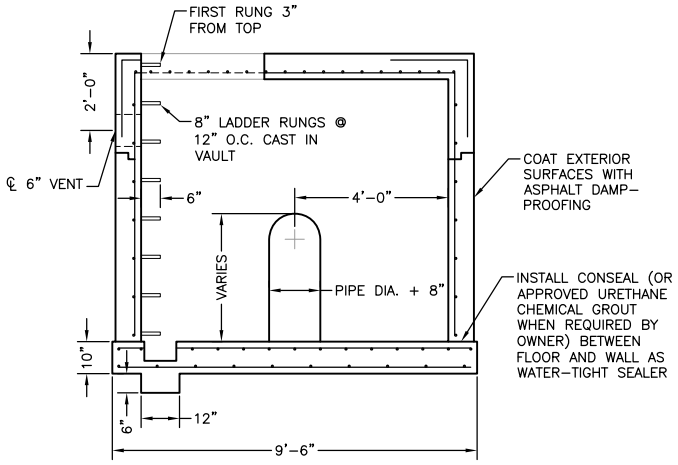
PLAN VIEW
N.T.S.



ROOF PLAN
N.T.S.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

NOTES:

1. ALL CONCRETE WORK SHALL COMPLY WITH DISTRICT STANDARD SPECIFICATIONS AND LATEST A.C.I.-318 CODE.
2. MINIMUM CONCRETE CLEARANCES FOR REBAR:
   - 3" WHERE POURED AGAINST EARTH
   - 2" WHERE FORMED AND THEN EXPOSED TO GROUND OR WEATHER FOR #6 OR LARGER. 1.5" FOR #5 AND SMALLER.
   - 1" WHERE EXPOSED TO INTERIOR SURFACES
3. ALL VAULTS SHALL BE CONSTRUCTED TO MEET HS20-44 TRAFFIC LOADING CONDITIONS AND 300 PSF SURCHARGE LOAD.

STRASBURG SANITATION AND WATER DISTRICT

STANDARD CONCRETE VAULT FOR VALVE INSTALLATION (PRECAST)

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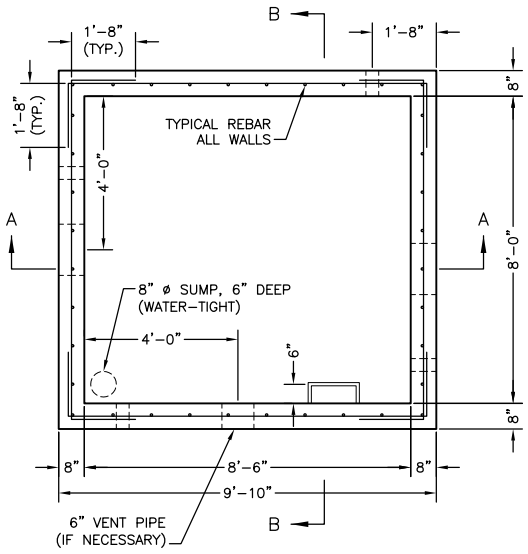
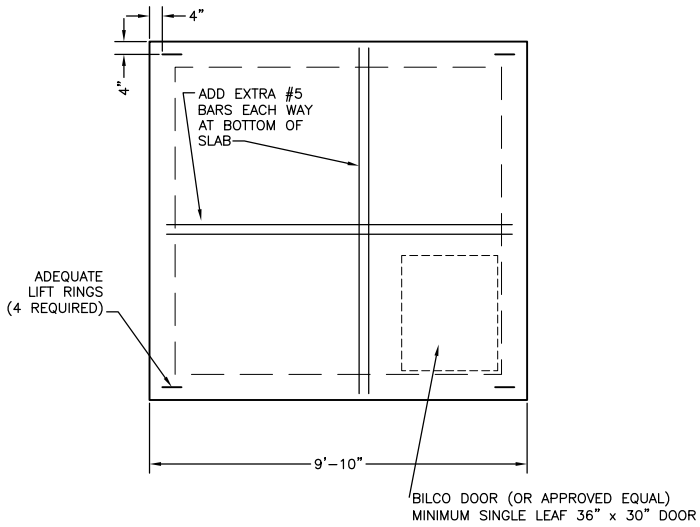
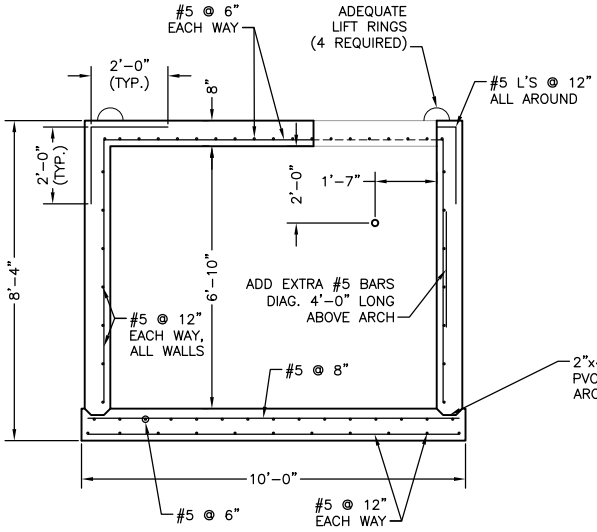


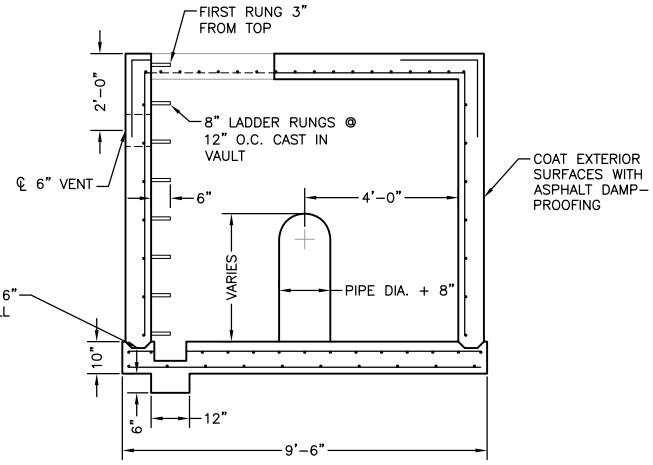
PLAN VIEW
N.T.S.



ROOF PLAN
N.T.S.



SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

NOTES:

1. ALL CONCRETE WORK SHALL COMPLY WITH DISTRICT STANDARD SPECIFICATIONS AND LATEST A.C.I.-318 CODE.
2. MINIMUM CONCRETE CLEARANCES FOR REBAR:
   - 3" WHERE POURED AGAINST EARTH
   - 2" WHERE FORMED AND THEN EXPOSED TO GROUND OR WEATHER FOR #6 OR LARGER. 1.5" FOR #5 AND SMALLER.
   - 1" WHERE EXPOSED TO INTERIOR SURFACES
3. ALL VAULTS SHALL BE CONSTRUCTED TO MEET HS20-44 TRAFFIC LOADING CONDITIONS AND 300 PSF SURCHARGE LOAD.

STRASBURG SANITATION AND WATER DISTRICT

STANDARD CONCRETE VAULT FOR VALVE INSTALLATION (CAST-IN-PLACE)

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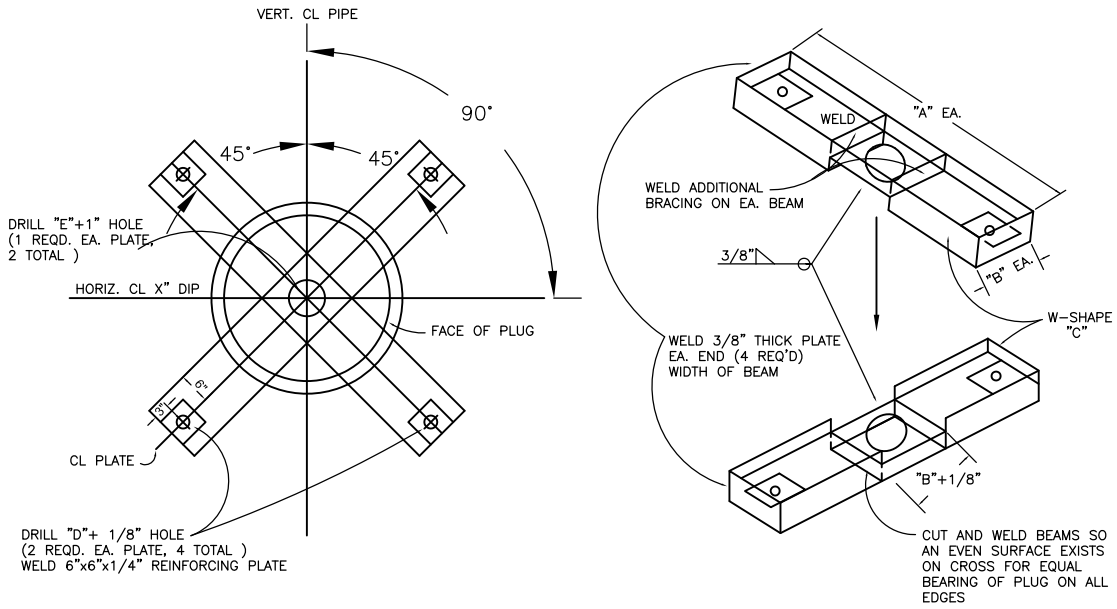
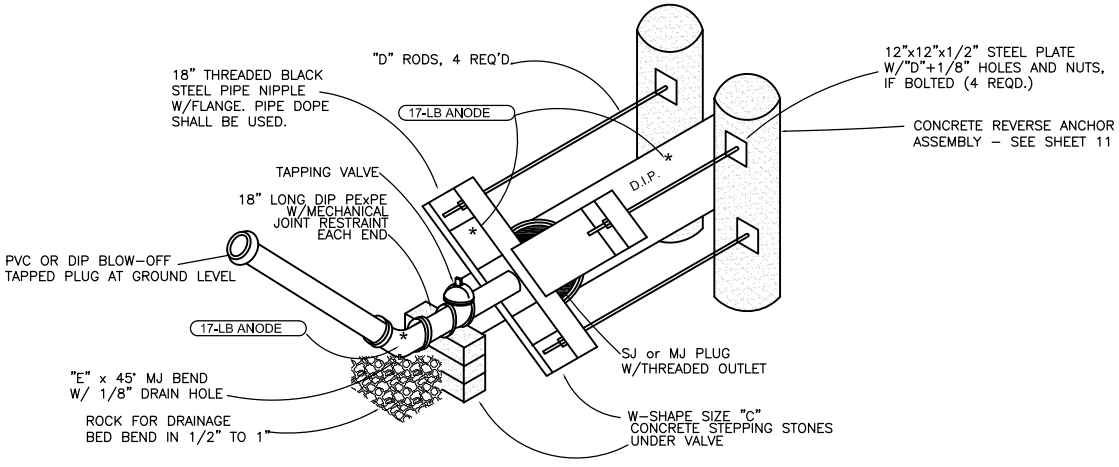


REFER TO SSWD FOR ALL DIMENSIONS AND SIZES

"E" = SIZE OF BLOW-OFF ASSEMBLY

(WHERE "E" = 2", USE STANDARD BLOW-OFF ASSEMBLY SHEET 12)



NOTES:

1. PIPE DOPE APPROVED FOR USE IN POTABLE WATER SYSTEMS MUST BE USED ON ALL THREADED JOINTS.
2. ENTIRE BLOW OFF ASSEMBLE MUST BE FULLY SUPPORTED SO NO LOAD BEARS ON BLOW-OFF PIPING.
3. IF APPROPRIATE LOCATION FOR DISCHARGED WATER CANNOT BE REACHED BY ROLLING THE BEND, ADDITIONAL BENDS MAY BE REQUIRED.
4. COAT TIE RODS, BEAMS AND BLACK IRON PIPE WITH EPOXY POLYAMIDE COATING, 10 MILS MIN.

STRASBURG SANITATION AND WATER DISTRICT

WATER LINE LOWERING DETAIL

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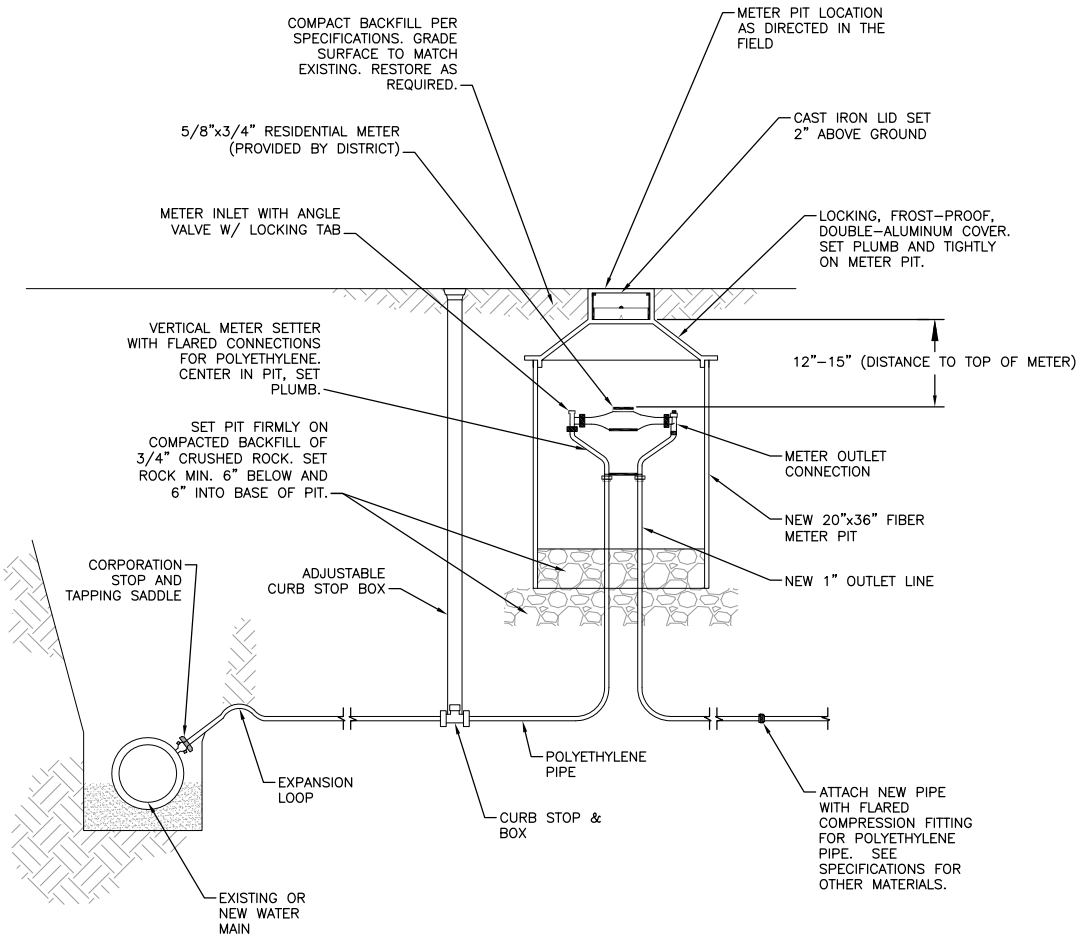

METER PIT SETUP
N.T.S.

STRASBURG SANITATION AND WATER DISTRICT			
TYPICAL METER PIT SETUP			
APPVD.	DATE:	SUVYD. DATE:	
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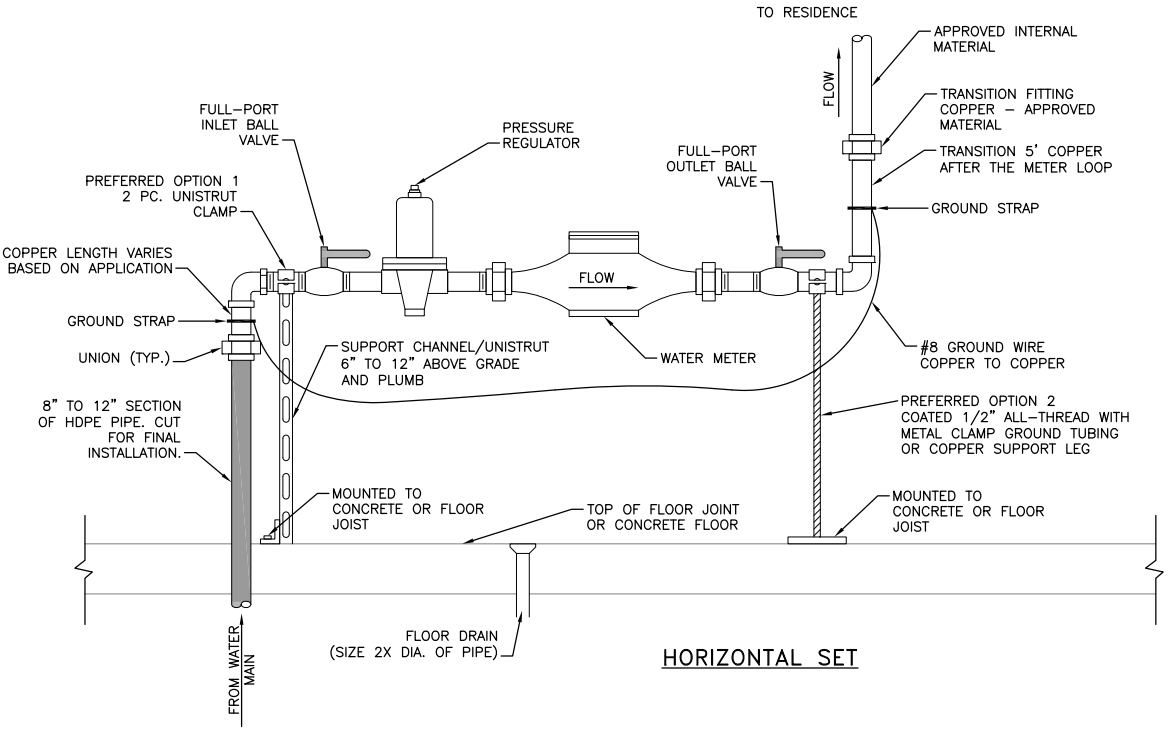
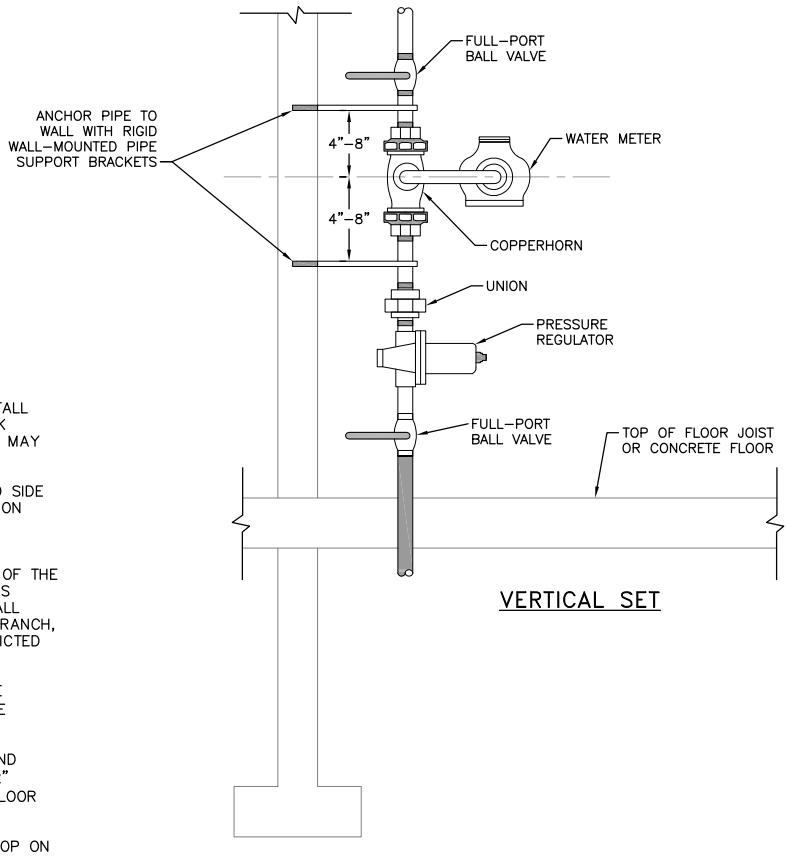


HORIZONTAL SET

METER SIZE	METER LENGTH*	WITH TAIL PIECE
5/8" (3/4" SHORT) METER	7.5"	12"
3/4" METER	9"	13–1/2"
1" METER	10–3/4"	15"
1–1/2" METER	12–5/8"	
2" METER	15–1/4"	

* CHECK METER LENGTH BEFORE INSTALLATION



VERTICAL SET

NOTES:

1. IN THE INTEREST OF SPACE CONSERVATION IT IS PERMISSIBLE TO INSTALL PIPING VERTICALLY DOWNSTREAM OF THE METER INCLUDING THE CHECK VALVE. THE PRESSURE REGULATOR ON THE INLET SIDE OF THE METER MAY BE INSTALLED IN A HORIZONTAL OR VERTICAL POSITION.
2. A SECOND PRESSURE REGULATOR MAY BE INSTALLED ON THE DEMAND SIDE OF THE METER DOWNSTREAM FROM A BRANCH SUPPLYING AN IRRIGATION SYSTEM IF REQUIRED. THE IRRIGATION SYSTEM BRANCH MUST BE DOWNSTREAM OF THE METER, CHECK VALVE AND BALL VALVE.
3. ONLY MINIMAL SEPARATION IS ALLOWED BETWEEN FITTINGS UPSTREAM OF THE METER TO ALLOW PROPER INSTALLATION OF THE REQUIRED FITTINGS AS DEPICTED IN THESE DRAWINGS AND SPECIFICATIONS. IN NO CASE SHALL SEPARATION BE GREATER THAN NECESSARY WHICH COULD ALLOW A BRANCH, TEE, OR OTHER FITTING UPSTREAM OF THE METER THAN WHAT IS DEPICTED AND SPECIFIED HEREIN.
4. AN APPROVED TRANSITION FITTING FROM HDPE TO COPPER INSIDE THE CRAWL SPACE/BASEMENT CAN BE USED ONCE THE HDPE SERVICE LINE ENTERS THE STRUCTURE.
5. THE METER PIPE MUST BE SECURED BEFORE AND AFTER THE INLET AND OUTLET VALVES TO A SOLID UPRIGHT SUCH AS THE UNISTRUT OR 1/2" ALL–THREAD (OR MOUNTED BI–LATERALLY) AND ANCHORED TO THE FLOOR AND CLAMPED TO THE HORIZONTAL PIPING.
6. BANDING OR GROUND STRAPS MUST BE INSTALLED AROUND METER LOOP ON COPPER LINES (COPPER TO COPPER).
7. IF HDPE ENTERS STRUCTURE THROUGH SLAB, IT MUST BE ANCHORED AFTER THE TRANSITION FITTING ON THE COPPER TUBING.
8. MINIMUM SIZE = 1" HDPE CTS PIPE PER DISTRICT SPECIFICATIONS.

STRASBURG SANITATION AND WATER DISTRICT

WATER METER LOOP FOR 3/4" THROUGH 1" METERS

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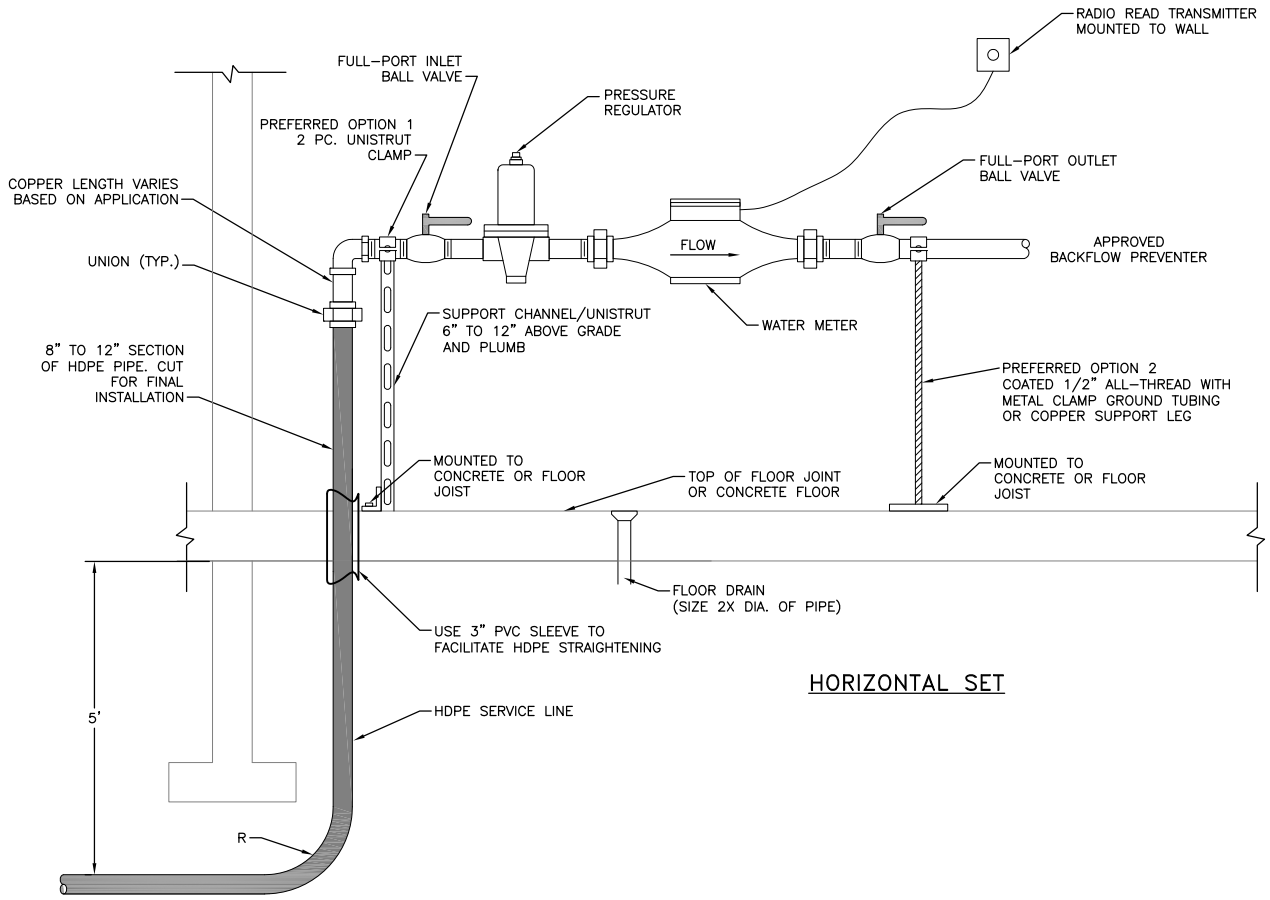

HORIZONTAL SET

NOTES:

1. IN THE INTEREST OF SPACE CONSERVATION IT IS PERMISSIBLE TO INSTALL PIPING VERTICALLY DOWNSTREAM OF THE METER INCLUDING THE CHECK VALVE. THE PRESSURE REGULATOR ON THE INLET SIDE OF THE METER MAY BE INSTALLED IN A HORIZONTAL OR VERTICAL POSITION.
2. A SECOND PRESSURE REGULATOR MAY BE INSTALLED ON THE DEMAND SIDE OF THE METER DOWNSTREAM FROM A BRANCH SUPPLYING AN IRRIGATION SYSTEM IF REQUIRED. THE IRRIGATION SYSTEM BRANCH MUST BE DOWNSTREAM OF THE METER, CHECK VALVE AND BALL VALVE.
3. ONLY MINIMAL SEPARATION IS ALLOWED BETWEEN FITTINGS UPSTREAM OF THE METER TO ALLOW PROPER INSTALLATION OF THE REQUIRED FITTINGS AS DEPICTED IN THESE DRAWINGS AND SPECIFICATIONS. IN NO CASE SHALL SEPARATION BE GREATER THAN NECESSARY WHICH COULD ALLOW A BRANCH, TEE, OR OTHER FITTING UPSTREAM OF THE METER THAN WHAT IS DEPICTED AND SPECIFIED HEREIN.
4. AN APPROVED TRANSITION FITTING FROM HDPE TO COPPER INSIDE THE STRUCTURE CAN BE USED ONCE THE HDPE SERVICE LINE ENTERS THE STRUCTURE.
5. THE METER PIPE MUST BE SECURED BEFORE AND AFTER THE INLET AND OUTLET VALVES TO A SOLID UPRIGHT SUCH AS THE UNISTRUT OR 1/2" ALL–THREAD (OR MOUNTED BI–LATERALLY) AND ANCHORED TO THE FLOOR AND CLAMPED TO THE HORIZONTAL PIPING.
6. BANDING OR GROUND STRAPS MUST BE INSTALLED AROUND METER LOOP ON COPPER LINES (COPPER TO COPPER).
7. THE LOCATION OF THE HDPE PENETRATION SHALL BE A MINIMUM OF 12" FROM ANY WALL OR FOUNDATION. A 30" CLEAR SPACE SHALL BE PROVIDED IN FRONT OF METER FOR ACCESS AND MAINTENANCE.
8. THE HDPE SERVICE LINE SHALL BE CONTINUOUS FROM THE CURB STOP THROUGH THE FLOOR WITH NO JOINTS.
9. THE DIAGRAM SHOWS A THREADED METER CONNECTION. A 2–BOLT ECCENTRIC FLANGE METER CAN ALSO BE ORDERED. A THREADED UNION MUST BE INSTALLED AT LEAST ON ONE SIDE OF THE METER AT EITHER THE DOWNSTREAM BALL VALVE OR UPSTREAM REGULATOR IF A FLANGE METER IS USED.

METER SIZE	METER LENGTH*	MIN. R
1–1/2" METER	12–5/8"	30"
2" METER	15–1/4"	48"

* CHECK METER LENGTH BEFORE INSTALLATION

STRASBURG SANITATION AND WATER DISTRICT

1 1/2" AND 2" INDOOR METER INSTALLATION

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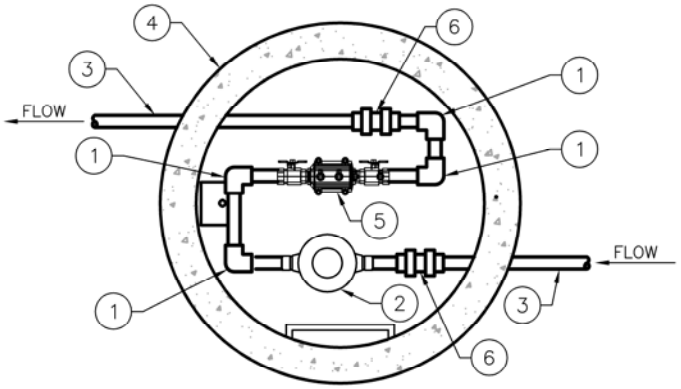
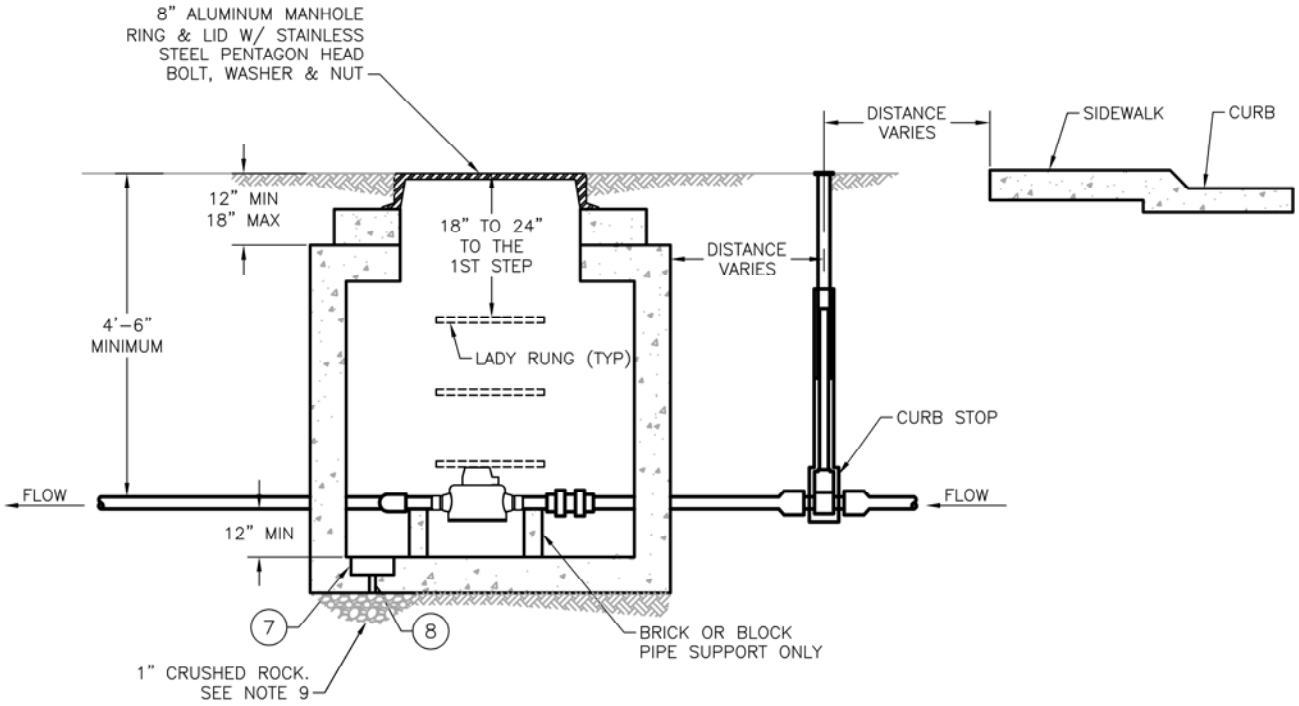
1	90 DEG ELBOW
2	METER UNIT
3	TYPE K SOFT COPPER TUBE
4	48" DIA CONCRETE VAULT
5	BACKFLOW PREVENTER
6	BALL VALVE
7	1" DRAINHOLE WITH EXPANSION PLUG AND DRAINAGE PIT
8	SUMP



PLAN



ELEVATION

NOTES:

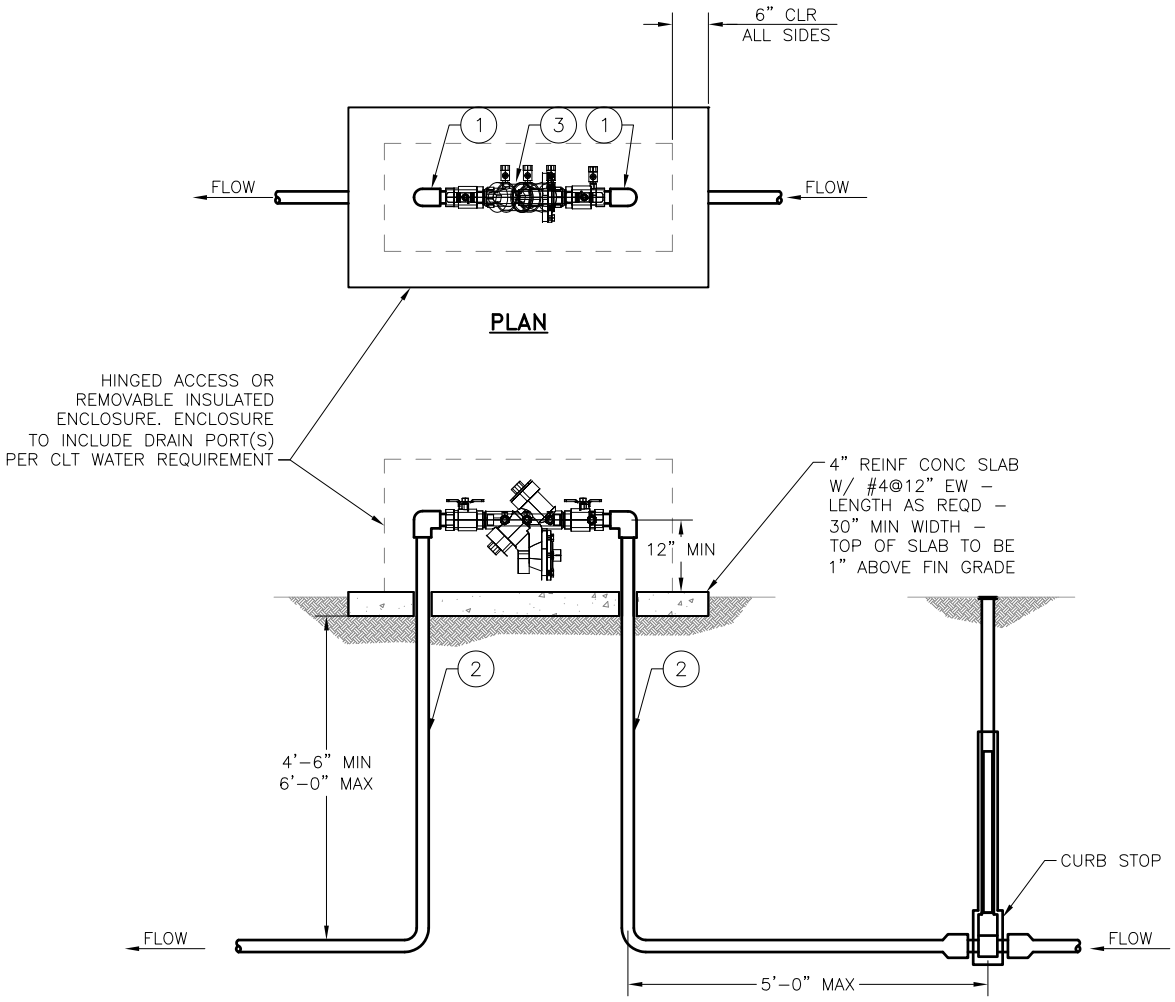
1. BASE AND BOTTOM BARREL SECTION SHALL BE PRECAST AS A SINGLE UNIT. THE VAULT SHALL BE WATERTIGHT. USE APPROVED GASKET MATERIALS TO SEAL PIPE PENETRATIONS.
2. JOINTS INSIDE METER VAULT SHALL BE EITHER THREAD. COMPRESSION SILVER SOLDERED OR 95-5 TIN ANTIMONY SOLDER.
3. THE ONLY METER APPROVED IN STASBURG IS THE INVENSYS SR2 WITH A BRONZE BODY.
4. METER SETTER SHALL BE AS INDICATED IN CITY STANDARDS.
5. NO CONNECTIONS OR CHANGES IN PIPE DIAMETER SHALL BE MADE IN THE METER OR IN THE DISTANCE OF FIVE FEET ON EITHER SIDE OF THE METER VAULT.
6. HALF INCH OR LARGER CONDUIT MUST BE RUN FROM THE PIT TO THE CLOSET BLDG AND UP THE EXTERIOR OF THE BUILDING WALL A MIN. OF 4 FEET.
7. WHEN THE BACKFLOW DEVICE IS INSTALLED INSIDE THE BUILDING. THE PLUMBING WITHIN THE VAULT WILL BE MODIFIED TO ACCOMMODATE THE METER ONLY.
8. THE INSTALLATION OF WATER METER VAULTS IN STREETS, ROADWAYS, DRIVEWAYS, ALLEYS OR PARKING LOTS WILL NOT BE ALLOWED UNLESS APPROVED BY THE WATER ENGINEER.
9. PLACE A MINIMUM OF 2 CUBIC YARDS OF 1" CRUSHED ROCK UNDER THE SUMP.
10. VAULT CAN BE INSTALLED WITHOUT A BOTTOM ON TOP OF 3/4" CRUSHED ROCK. A SUMP THEN WOULD NOT BE NECESSARY.
11. SEE SECTION 5.01 OF THE SSWD PUBLIC UTILITY DESIGN AND CONSTRUCTION SPECIFICATIONS FOR BACKFLOW PREVENTION DEVICE STANDARDS.
12. LADDER RUNGS SHALL BE 12" O.C. CAST IN VAULT.
13. FOR UNDERGROUND INSTALLATIONS, A REDUCED PRESSURE ZONE BACKFLOW PREVENTER WILL ONLY BE ALLOWED IF THE CUSTOMER OBATAINS PRIOR WRITTTEN APPROVAL FROM THE COLORADO DEPARTMENT OF HEALTH AND ENVIROMENT CROSS CONNECTION CONTROL DEPARTMENT HEAD.

STRASBURG SANITATION AND WATER DISTRICT

3/4" TO 2" BACKFLOW PREVENTER WITH METER

APPVD.	DATE:	SUVYD. DATE:	
CHECKED	DATE:	SHEET OF	Scale: NONE
DESIGN DES	DATE:	JOB NO.	
PLOTTED ACH	DATE: 06/18	PA NO.	25
REVISION			

1	90 DEG ELBOW
2	TYPE K SOFT COPPER TUBE
3	BACKFLOW PREVENTER



NOTES:

1. CONCRETE PAD PENETRATIONS SHALL BE 1" LARGER THAN PIE DIAMETER.
2. DIAMETER OF FITTINGS, NIPPLE, & TUBING SHALL BE EQUAL IN DIAMETER TO THE BACKFLOW PREVENTER.
3. HEATED ENCLOSURE SHALL HAVE SEPERATE APPROVED ELECTRICAL SERVICE & SHALL BE SIZED TO ALLOW ADEQUATE ROOM FOR TESTING AND MAINTENANCE.
4. REFER TO LOCAL CODES & MANUFACTURER REQUIREMENTS FOR INSTALLATION INSTRUCTIONS.
5. SEE SECTION 5.01 OF THE SSWD PUBLIC UTILITY DESIGN AND CONSTRUCTION SPECIFICATIONS FOR BACKFLOW PREVENTION DEVICE STANDARDS.
6. LADDER RUNGS SHALL BE 12" O.C. CAST IN VAULT.

STRASBURG SANITATION AND WATER DISTRICT

3/4" TO 2"
ABOVE GROUND BACKFLOW PREVENTER

APPVD.	DATE:	SUVYD. DATE:	
CHECKED	DATE:	SHEET OF	Scale: NONE
DESIGN DES	DATE:	JOB NO.	
PLOTTED ACH	DATE: 06/18	PA NO.	26
REVISION			